REMARKS

In the Office Action, the Examiner has rejected claims 1-12 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,348,679 to Lorenz (hereinafter the '679 Patent). Applicants respectfully disagree.

Pursuant to this Reply, typographical errors in paragraphs 32, 34, and 35 of the specification have been corrected. Further, Claims 1, 3, and 12 are amended and new Claims 13-14 are added. Claim 3 is partially incorporated into Claim 1 to disclose the unique features of the present invention that a shared active load is included in the proposed differential comparator circuit for amplifying the input voltage and generating the output voltage, and Claims 3-4 are amended accordingly. Claim 12 is amended to disclose the unique features of the present invention that a pre-amplifier receiving circuit is included in the second differential receiving circuit of the proposed differential comparator circuit to avoid a floating. The newly added Claim 13 is a dependent claim of Claim 12 and discloses the unique features of the present invention that a main receiving circuit is included in the second differential receiving circuit of the proposed differential comparator circuit. Claim 14 is a dependent claim of Claim 13 and further discloses the unique features of the present invention that a shared active load is included in the proposed differential comparator circuit to be electrically connected to the first differential receiving circuit and the main receiving circuit for forming a first and a

second operational amplifier circuits, respectively. All the above-mentioned modifications of the specification and the amendments of the Claims are employed to clarify the contents of the present invention, are supported by the original version of the specification and the Claims of the present application, and do not contain any new matter.

In rejecting Claim 1, the esteemed examiner considered that Figs. 2-4 and 7 of the '679 Patent show a differential comparator comprising a first differential comparator, and a detecting circuit coupled to a second differential comparator, and the second differential comparator receives the trigger signal from the detecting circuit. The Applicants respectfully submit that the '679 Patent does not anticipate amended Claim 1 for the following reasons:

(1) The shared active load included in the proposed differential comparator circuit is not anticipated by the '679 Patent.

The esteemed examiner commented that the "shared loads" comprises elements connected to the amplifying transistors (MP31) and (MP32) of the first differential receiving circuit in Fig. 3 and the amplifying transistors (MP46) and (MP47) of the second differential receiving circuit in Fig. 4 (of the '679 Patent) in a statement regarding Claim 8. But, the elements connected to the amplifying transistors (MP31) and (MP32) of the first differential receiving circuit in Fig. 3 belong to the trans-conductance amplifier 300 and the elements connected to the amplifying

transistors (MP46) and (MP47) of the second differential receiving circuit in Fig. 4 belong to the trans-conductance amplifier 400, and there is no "common element" shared by the trans-conductance amplifier 300 and the trans-conductance amplifier 400 of the '679 Patent.

(2) In the present invention, the proposed "shared active load" 312 is shared by the first differential receiving circuit 311 and the main receiving circuit 322 to form a first operational amplifier (including elements: 311 and 312) and a second operational amplifier (including elements: 322 and 312) respectively as shown in Fig. 4 and as described on paragraph [0030], lines 5-7, and on paragraph [0032], lines 6-9, of the specification of the present invention.

(3) Since the shared active load is shared by the first differential receiving circuit and the main receiving circuit to form a first operational amplifier and a second operational amplifier respectively, the manufacturing cost of the proposed differential comparator circuit would be relatively lower than that of the conventional differential comparator circuit in the prior art without the shared active load due to the fact that fewer elements are employed in the proposed differential comparator circuit. Also, the design complexity of the proposed differential comparator circuit would be relatively lower due to the same reason of sharing. These are examples of the advantages of the claimed invention over the

conventional differential comparator circuit in the prior art without the shared active load.

For the reasons set forth above, Applicants respectfully submit that the "shared active load," as claimed in the present application, is not disclosed in the '679 Patent.

Accordingly, Applicants request reconsideration and withdrawal of the rejection directed to the amended Claim 1. Claims 2-7 are dependent from the amended Claim 1 and are therefore allowable for the same reasons set forth above.

The esteemed examiner also indicated that Claim 8 is rejected under 35 U.S.C. § 102 as being anticipated by the '679 Patent and Figs. 2-4 and 7 of the '679 Patent show a differential comparator. For the same reasons presented above, the "shared active load" of the proposed differential comparator circuit in Claim 8 is not disclosed in the '679 Patent.

Accordingly, Applicants request reconsideration and withdrawal of the rejection directed to Claim 8. Claims 9-11 are dependent from Claim 8 and are therefore allowable for the same reasons presented above.

The esteemed examiner also commented that Claim 12 is rejected under 35 U.S.C. § 102 as being anticipated by the '679 Patent and Figs. 2-4 and 7 of the '679 Patent show a differential comparator for receiving an input voltage within a pre-

determined range etc.

After reviewing the cited reference, Applicants respectfully submit that the '679 Patent does not anticipate the amended Claim 12. The reasons are described as follows:

(1) The pre-amplifier receiving circuit included in the proposed differential comparator circuit is not disclosed in the '679 Patent.

There is no pre-amplifier receiving circuit disclosed in the '679 Patent.

(2) In the present invention, the "pre-amplifier receiving circuit" 321 of the proposed differential comparator circuit is disclosed and described on paragraph [0032], lines 3-4, on paragraph [0034], lines 1-4, and on paragraph [0035], lines 1-6, of the specification and as shown in Fig. 4 of the present invention respectively.

(3) The main advantages of employing the pre-amplifier receiving circuit are: "the pre-amplifier receiving circuit is shut down to avoid a floating when the first differential receiving circuit is operated, and to gain a cumulative effect" as disclosed in Claim 10 and as described on paragraph [0034], lines 1-4, and on paragraph [0035], lines 1-6 of the specification of the present invention.

For the reasons presented above, the proposed "pre-amplifier receiving circuit," as claimed in the present invention, is not disclosed in the '679 Patent.

Accordingly, Applicants request reconsideration and withdrawal of the rejection

directed to the amended Claim 12. Claims 13-14 are dependent from the amended Claim 12 and are therefore allowable for the same reasons presented above.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the present application, including claims 1 - 14, are in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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